AMENDMENT TO THE CLAIMS

Please amend the claims to be as follows, with changes made indicated.

Claim 1 (currently amended): A method of inspecting and/or characterizing a substrate, comprising:

obtaining a first dataset (D_{A1}), wherein said first dataset includes data derived from an image collected by a first detector of a first region of said substrate;

obtaining a second dataset (D_{B1}), wherein said second dataset includes data derived from an image collected by a second detector of at least a portion of said first region of said substrate;

obtaining a third dataset (D_{A2}), wherein said third dataset includes data derived from an image collected by said first detector from a second region of said substrate, wherein said second region of said substrate is expected to be substantially identical to said first region;

obtaining a fourth dataset (D_{B2}), wherein said fourth dataset includes data derived from an image collected by said second detector of at least a portion of said second region of said substrate; and

processing information derived from said first, second, third and fourth datasets to detect a defect in at least one of said first or second regions using a generalized equation of a form $A = (P(BD_{A1}+CD_{B1})^M/(SD_{A1}+TD_{B1})^Q + (ED_{A2}+FD_{B2})^N/(UD_{A2}+VD_{B2})^R)^K$, where values of B, C, E, F, M, K, P, Q, R, S, T, U, V, and N represent constants and/or functions of other variables, wherein said information processing further includes calculating a first function representing comparison between said first and third datasets and calculating a second function representing comparison between said second and fourth data sets[[,]]; and

classifying the detected defect using output values of the first and second functions.

Claim 2 (original): The method of Claim 1 wherein the step of processing information comprises:

calculating the difference signal for each pixel with said first detector, calculating the difference signal for each pixel with said second detector, performing a mathematical operation on the two difference signals, and comparing the result of said operation with a threshold.

Claims 3-17 (canceled)

Claim 18 (previously presented): The method of Claim 1, wherein said comparison is an image substraction.

Claim 19 (canceled)

Claim 20 (previously presented): The method of Claim 1, wherein defects whose output values of the first and second functions cluster together are classified as a same defect type.

Claims 21-27 (canceled)

Claim 28 (previously presented): The method of Claim 20, wherein at least two portions of said substrate are exposed to charged particles, and wherein said detectors are used to detect charged particles emitted from said portions, and wherein data from said detectors is used to determine whether potential defects exist within said portions.

Claims 29-48 (canceled)